

Application No. 09/187,472

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and recirculating a major portion of the substantially pollutant-free air over the fresh product to thereby continue the roasting step; discharging a minor portion of the filtered air [prior to] while reheating and recirculating the major portion of the air; monitoring a second parameter which is compatible with the first parameter and is generated by the fresh product during roasting; and, upon detecting a match between the first and second parameters, discontinuing the roasting step.

N. (twice amended) A method of automatically roasting coffee beans to attain a predetermined, desired coffee aroma comprising the steps of roasting a sample of the beans to a degree at which coffee made with the beans exhibits the desired aroma; sensing one of a color and a darkness of the beans when they have reached the degree of roasting and from the sensed color or darkness generating a first parameter which is indicative of the sensed color or darkness of the bean sample; storing the first parameter; thereafter roasting fresh beans by flowing heated air over the fresh beans; cleaning the heated air after it has passed the fresh beans so that the air is substantially pollutant-free; cooling the air after it has passed the fresh beans to about room temperature while continuing flowing the heated air over the fresh beans; discharging the cooled, pollutant-free, room temperature air into a substantially closed room frequented by humans; the steps of roasting the fresh beans and heating, cleaning and cooling and discharging the air being performed in a substantially closed room frequented by humans; monitoring one of the color and darkness of the fresh beans being roasted and generating a second parameter which is indicative of a color or darkness of the fresh beans; comparing the first and second parameters during roasting of the fresh beans; terminating the roasting of the fresh beans when the first and second parameters match; and discharging the cooled, pollutant-free, room temperature air into the room.

56. (thrice amended) A method for uniformly roasting coffee beans at a plurality of geographically separate locations comprising the steps of placing a roasting machine at each location inside an enclosed room frequented by humans; equipping each roasting machine with a roasting container for holding fresh beans while they are being roasted, a hot air supply for heating the fresh beans to a roasting temperature, and an air removal system for directing used air away from the container; removing from the used air substantially all debris, smoke, oil, and other pollutants; after the step of removing, cooling at

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least a portion of the used air; discharging the portion of used air into the enclosed room while continuing to heat the fresh beans; directing a laser light beam of a frequency in the range of between about 600-800 nm onto the beans in the container during roasting; generating an output signal from laser light reflected by the beans which is a function of the observed darkness of the beans; providing each roasting machine with a computer including a memory; feeding the output signal to the computer; at a central control station determining an optimal darkness for each bean type that will be roasted by the roasting machines; at the control station generating a control signal which reflects the optimal darkness of each roasted bean type; downloading the control signal from the central control station to the computer of each roasting machine; during roasting at any given roasting machine comparing the control signal stored in the associated memory with the output signal generated by the instrument; when the compared signals match, generating a command signal; and using the command signal to terminate the roasting of the beans in the container.

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62. (twice amended) A method of roasting a food product comprising the steps of establishing the degree to which the product must be roasted to attain a desired aroma; generating a measurable first parameter which is indicative that the product has been sufficiently roasted to yield the desired aroma; storing the first parameter; roasting fresh product at a roasting temperature by flowing heated air over the fresh product; while flowing heated air over the fresh product removing substantially all pollutants from the air downstream of the fresh product being heated, cooling the air downstream of the fresh product to substantially room temperature, and thereafter, while continuing to flow heated air over the fresh product, exhausting the cooled air into a room of a building; monitoring a second parameter which is compatible with the first parameter and is generated by the fresh product during roasting; and, upon detecting a match between the first and second parameters, discontinuing the roasting step.

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64. (amended) A method according to claim [64] 62 including adjusting the step of discontinuing the roasting of the fresh product as a function of at least one of the roasting temperature and atmospheric pressure.